

Mid-Span Power Hub 8-Port and 24-Port

User's Guide

P/N 9033926-02





Electrical Hazard: Only qualified personnel should perform installation procedures.

Riesgo Electrico: Solamente personal calificado debe realizar procedimientos de instalacion.

Elektrischer Gefahrenhinweis: Installationen sollten nur durch ausgebildetes und qualifiziertes Personal vorgenommen werden.

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This product complies with the following: 47 CFR Parts 2 and 15, CSA C108.8, 89/336/EEC, EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024, AS/NZS CISPR 22, VCCI V-3.

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Este producto de Enterasys cumple con lo siguiente: 47 CFR Partes 2 y 15, CSA C108.8, 89/336/EEC, EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3, AS/NZS CISPR 22, VCCI V-3.

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Manufacturer's Address: **50 Minuteman Road**
Andover, MA 01810
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EN 61000-3-2
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EN 55024
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About This Guide

Purpose

This guide provides information and procedures on hardware installation, setup, configuration, and management of the Enterasys Networks 8-port and 24-port Mid-Span Power Hubs.



Note: This guide applies to the following products:

- BL-69108ENT, which is a standalone 8-port chassis
- BL-69524ENT, which is the chassis complete with three eight-port modules
- BL-69224ENT, which is the chassis without modules

Who Should Use This Guide



Electrical Hazard: Only qualified personnel should perform installation procedures.

Riesgo Electrico: Solamente personal calificado debe realizar procedimientos de instalacion.

Elektrischer Gefahrenhinweis: Installationen sollten nur durch ausgebildetes und qualifiziertes Personal vorgenommen werden.

This guide is intended for administrative and technical personnel responsible for installing and managing Enterasys Networks products.

To use this guide effectively, you should have a working knowledge of Local Area Networking (LAN) concepts and wireless LAN access infrastructures. In addition, you should have:

- A working knowledge of basic electronics and mechanical assembly.
- An understanding of local operating and troubleshooting procedures.
- An understanding of related local building codes.

Document Conventions

The following conventions are used in this guide:



Note: Calls the reader's attention to any item of information that may be of special importance.



Caution: Contains information essential to avoid damage to the equipment.

Precaución: Contiene información esencial para prevenir dañar el equipo.

Achtung: Verweist auf wichtige Informationen zum Schutz gegen Beschädigungen.



Electrical Hazard: Warns against an action that could result in personal injury or death due to an electrical hazard.

Riesgo Electrico: Advierte contra una acción que pudiera resultar en lesión corporal o la muerte debido a un riesgo eléctrico.

Elektrischer Gefahrenhinweis: Warnung vor sämtlichen Handlungen, die zu Verletzung von Personen oder Todesfällen – hervorgerufen durch elektrische Spannung – führen können!

Getting Help

For additional support related to the Mid-Span Power Hubs or this document, contact Enterasys Networks using one of the following methods:

World Wide Web	www.enterasys.com/services/support/
Phone	1-800-872-8440 (toll-free in U.S. and Canada) or 1-978-684-1000 For the Enterasys Networks Support toll-free number in your country: www.enterasys.com/services/support/contact/
Internet mail	support@enterasys.com To expedite your message, type [other] in the subject line.

To send comments concerning this document to the Technical Publications Department:
techpubs@enterasys.com

Please include the document Part Number in your email message.

Before contacting Enterasys Networks for technical support, have the following information ready:

- Your Enterasys Networks service contract number
- A description of the failure

- A description of any action(s) already taken to resolve the problem (for example, changing mode switches or rebooting the unit)
- The serial and revision numbers of all involved Enterasys Networks products in the network
- A description of your network environment (for example, layout or cable type)
- Network load and frame size at the time of trouble (if known)
- The device history (for example, have you returned the device before or is this a recurring problem)
- Any previous Return Material Authorization (RMA) numbers

Functions and Features

The BL-69108ENT and BL-69524ENT, Enterasys Networks' 8-port and 24-port Mid-Span Power Hubs, support applications in which AC power is difficult to access, such as VoIP phones, wireless LAN access points, or IP network cameras.

The Enterasys Mid-Span Power Hubs act as "patch panels" and add ~48 VDC to unused (non-data) wires in standard Category 5, 5e, or 6 Ethernet cable. The power unit delivers both data and power over a single standard Ethernet cable.

Main features of the Mid-Span Power Hubs:

- Fully hot-swappable module banks
- Remote power feeding; powered devices receive power over the Ethernet cable
- Centralized power distribution; one powered device can be connected to a single in-line unit
- IEEE 802.3af standard powering scheme
- Act as normal patch panels and place ~48 VDC on unused Ethernet pins
- Total power available: 15.6 W per port per IEEE specification
- Automatic power-control circuitry to detect a powered device before providing power
- Fused power surge protection

Port Indicators

Each port has its own LEDs, which display the following:

- Detect/Power Forwarding (blue)
- Power from Chassis (green)

For information on Troubleshooting, refer to [Table 3-1](#) on page 3-1.

Installation and Connection



Electrical Hazard: Only qualified personnel should install or service this unit.

Riesgo Eléctrico: Solamente personal capacitado debe de instalar o darle servicio a esta unida.

Elektrischer Gefahrenhinweis: Installationen oder Servicearbeiten sollten nur durch ausgebildetes und qualifiziertes Personal vorgenommen werden.

Verifying the Kit

Unpack the unit and verify that you have all of the following items (see [Figure 2-2](#)):

- Enterasys Networks 8-port or 24-port Mid-Span Power Hub
- Power Cord
- User's Guide

Kit Contents

Figure 2-1 Contents of the BL-69108ENT Kit



BL-69108ENT 8-Port Mid-Span Power Hub

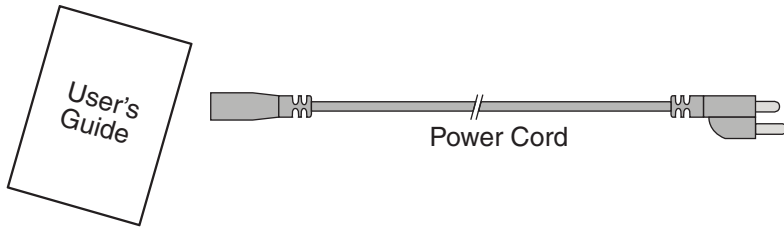
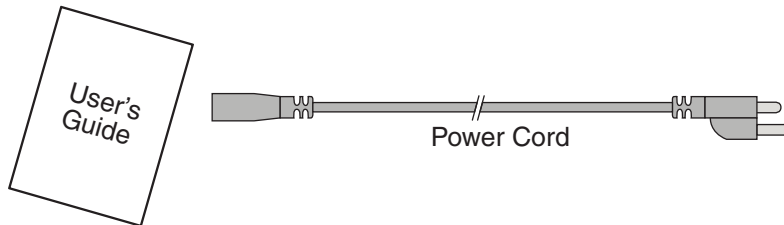


Figure 2-2 Contents of the BL-69524ENT Kit



BL-69524ENT 24-Port Mid-Span Power Hub



Technical Considerations

An Enterasys Networks Mid-Span Power Hub may be placed on a shelf or mounted in a standard 48.26-centimeter (19-inch) rack.

Before you mount the unit to a fixed location, consider the following:

- Determine optimal placement.
- Collect and document network information as required.
- Ensure that the length of cable from the Ethernet network source to the powered device does not exceed 100 meters.



Note: The units are not repeaters and do not amplify the Ethernet data signal.

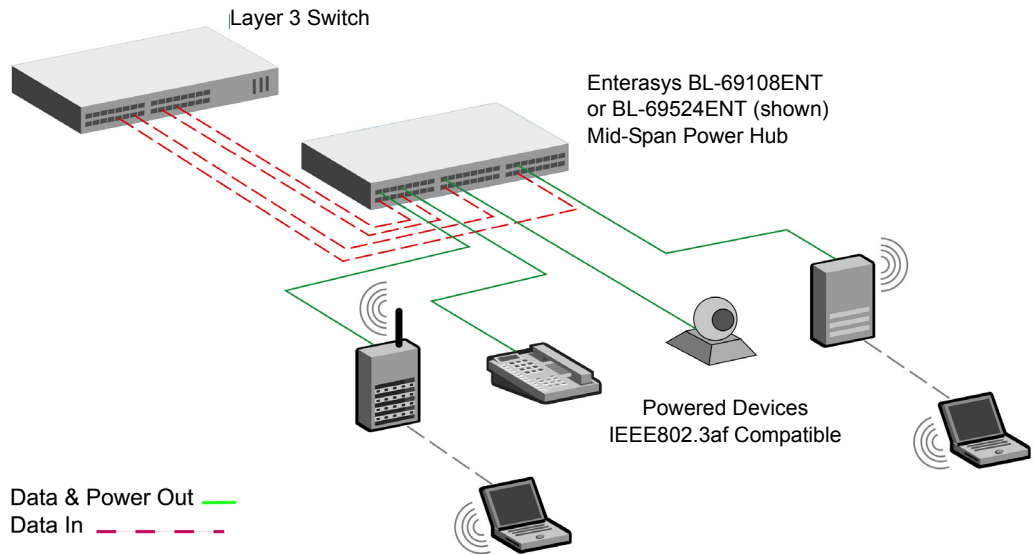


Caution: Observe the following requirements when mounting the Enterasys Networks Mid-Span Power Hubs:

- The unit is intended for installation in a wiring closet.
- Connect the unit to a grounding type AC outlet (100-240 VAC), using the standard power cord shipped with the unit, or a user-supplied UPS (uninterruptible power supply).
- Allow for easy access to disconnect the unit from the AC outlet if necessary.
- Do not cover the unit or block the airflow with any other objects. Keep the unit away from excessive heat, humidity, vibration, and dust.
- Ensure that installation conforms to local regulations.

Configuration for a Mid-Span Power Hub

Figure 2-3 shows a typical configuration for an Enterasys Networks Mid-Span Power Hub (BL-69524ENT shown) operating with 802.3af appliances. To ensure EMC compliance and compliance with Class A requirements, use Category 5, 5e, or 6 shielded twisted pair straight-through cables.

Figure 2-3 Typical Configuration for a Mid-Span Power Hub

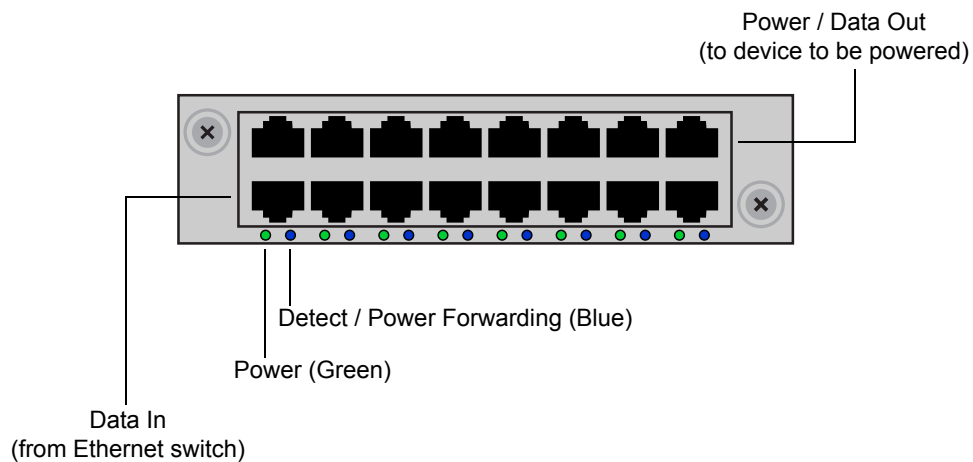
Powering Up

Simply plug one end of the power cord into the unit, and the other end into a grounded AC power source. Units are typically connected to a power strip or other power outlet that may be cycled on and off. An uninterruptible power supply may also be used.

Check to make sure each module installed displays a green Power LED (see [Figure 2-4](#)). Verify that any module that does not display a green Power LED is properly seated in the chassis backplane.

If problems exist, refer to the troubleshooting checklist in [Chapter 3, Troubleshooting](#).

If you require assistance, contact Enterasys Networks using one of the methods described in [“Getting Help”](#) on page xii.

Figure 2-4 Module Bank for the 8-Port and 24-Port Mid-Span Power Hubs

Troubleshooting

Refer to [Table 3-1](#) for a checklist of problems and recommended actions to resolve the problem. If additional support is needed, refer to “[Getting Help](#)” on page xii.

Table 3-1 Troubleshooting Checklist

Problem	Recommended Action
Unit is plugged into the Enterasys Mid-Span Power Hub, but main power LED is “off.”	<p>Verify the use of a good AC cable with a good ground connection.</p> <p>Verify that the AC is “hot” and that voltage is between 100 VAC to 264 VAC (50 Hz to 60 Hz).</p> <p>For the 24-Port Mid-Span Power Hub, if the internal fan is working, there may be an internal circuitry fault or internal voltage that is out of specification. If the fan is not working, there may be an internal power supply fault.</p>
Unit is plugged in and running, but the fans are not working.	<p>Verify that all fan openings are clear.</p> <p>Verify that the metal case is not damaged.</p> <p>Verify that there are no loose parts inside the Mid-Span Power Hub.</p> <p>If needed, check and replace fuse at the inlet plug 10 A rated fuse.</p>
The Mid-Span Power Hub operates but one of the powered devices does not work.	<p>Verify that you are using a standard UTP Cat. 5, 5e, or 6 cable, including all eight wires (four pairs). Try to move the same load into a different port on the same hub. If it works, there is probably a faulty port or bad RJ45 port connection. If possible, try to connect the load device into a different hub. Try using a different Ethernet cable; if it works, there is probably a faulty connection over the long cable, or a bad RJ45 connection.</p>

Table 3-1 Troubleshooting Checklist (continued)

Problem	Recommended Action
<p>The Mid-Span Power Hub operates and the load device works, but there is no data link.</p>	<p>Verify that the Detect/Power Forwarding (blue) LED for the port is “on.” Verify that the Mid-Span Power Hub is connected to the Ethernet network with a good connection.</p> <p>Verify that the Ethernet cable is Category 5, 5e, or 6 and is less than 100 meters in length from the Ethernet source to the load.</p> <p>Try to connect a different device over the same port. If it works and a link is established, there is probably a faulty data link in the load.</p> <p>Try to reconnect the load into a different output port (remember to move the input port accordingly). If it works, there is probably a faulty output or input port in the Mid-Span Power Hub or a bad RJ45 connection.</p>
<p>The Mid-Span Power Hub operates, but one of the ports is powering a load without turning the “Power” LED on.</p>	<p>Move the load into a different output port. If the LED turns “on,” there is a fault in the previous output port.</p>



Hardware Specifications

Regulatory Compliance Standards

This equipment meets the following safety and electromagnetic compatibility (EMC) requirements:

Safety	UL 60950, CSA C22.2 No. 60950, 73/23/EEC, EN 60950, IEC 60950
Electromagnetic Compatibility (EMC)	47 CFR Parts 2 and 15, CSA C108.8, 89/336/EEC, EN 55022, EN 61000-3-2, EN 61000-3-3, EN 55024, AS/NZS CISPR 22, VCCI V-3

Product Standards

This equipment meets the following product standards:

Standards	IEEE 802.3af
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Specifications

Model BL-69108ENT

- 8 female RJ45 data input ports
- Shielded jacks for Category 5 or greater UTP (two pair wire) or 100-ohm STP (two pair wire)
- Distance: Up to 100 meters, standard Ethernet distance
- 8 female RJ45 Data+Power on Ethernet (Power over Ethernet) output ports

Model BL-69524ENT

- 24 female RJ45 data input ports
- Shielded jacks for Category 5 or greater UTP (two pair wire) or 100-ohm STP (two pair wire)
- Distance: Up to 100 meters, standard Ethernet distance
- 24 female RJ45 Data+Power on Ethernet (Power over Ethernet) output ports

Physical/Mechanical Specifications

[Table A-1](#) provides physical and mechanical specifications for the 8-port and 24-port Mid-Span Power Hubs.

Table A-1 Physical and Mechanical Specifications

Item	Specification
BL-69108ENT	
Chassis Type	Shelf mount with rubber feet
Chassis Size	30.48 cm W x 26.67 cm D x 5.08 cm H (12in. W x 10.5 in. D x 2.0 in. H)
Module Type	Removable, hot swappable
Weight	1.0 kg (2.0 lb)
BL-69524ENT	
Chassis Type	48.26 cm (19.0 in.) rackmount with 3 modules
Chassis Size	44.45 cm W x 41.28 cm D x 4.45 cm H (17.5 in. W x 16.25 in. D x 1.75 in. H)
Module Type	Removable, hot swappable
Weight	9.0 kg (20 lb)

LED Indicators/Module

[Table A-2](#) provides module LED states and their definitions.

Table A-2 LED States and Their Definitions

LED Color	Status
Blue	Detect/Power Forwarding
Green	Power from Chassis

Physical/Environmental Specifications

Table A-2 provides physical and environmental specifications for the 8-Port (BL-69108ENT) and 24-Port (BL-69524ENT) Mid-Span Power Hubs.

Table A-3 Physical and Environmental Specifications

Item	Specification
Operating Temperature	0° C to 40° C (32° to 105° F)
Storage Temperature	-10° C to 60° C (14° F to 140° F)
Relative Humidity	10% to 90% non-condensing
Operating Altitude	-1,000 to 10,000 feet

Electrical Specifications

AC Power Input

Voltage	90–264 V autoranging (46 Hz–63 Hz)
Connector	3-pin with ground
Chassis grounding	yes
Power supply	single

DC Port Power Output

Power enabling	IEEE 802.3af
Power pins	Unused pairs, pins 4,5(+), 7,8(-)
Maximum power/port	15.6 W
Maximum power, all ports active	24 ports at 15.6 W each
Module-to-module isolation	1500 Vrms
Overload protection	If current reaches 400–450 mA for 300–400 milliseconds, then the port shuts down.

